

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Halbrook et al.
Serial No.: 10/550978
Confirmation No.: Not yet assigned
Filed: September 26, 2005
For: XANTHONES, THIOXANTHONES AND ACRIDINONES
AS DNA-PK INHIBITORS

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 3rd day of March, 2006.


Signature

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing of a first Office action on the merits in the above identified application.

No fee or certification is required.

PART II: Information Cited

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant hereby makes the following additional information of record in the above-identified application.

The Applicant would like to bring to the Examiner's attention the following pending application that may contain subject matter related to this application:

<u>Serial No.</u>	<u>Filing Date</u>	<u>Inventor(s)</u>
09/941897	August 28, 2001	Halbrook et al.

The Applicant would like to bring to the Examiner's attention the enclosed search report from corresponding International Application PCT/US2004/008459 mailed October 11, 2004.

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).


By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,
James Halbrook, et al., Applicant

By:



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Docket No.: N0260.70068S01

Date: March 3, 2006

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FORM PTO-1449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT				APPLICATION NO.: 10/550978		ATTY. DOCKET NO.: N0260.70068US01	
				FILING DATE: September 26, 2005		CONFIRMATION NO.: Not yet assigned	
				APPLICANT: James Halbrook, et al.			
				GROUP ART UNIT: Not yet assigned		EXAMINER: Not yet assigned	
Sheet	1	of	4				

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
	A1	3,904,631		Elslager et al.	09-09-1975
	A2	4,003,699		Rose et al.	01-18-1977
	A3	4,410,708		Yahagi et al.	10-18-1983
	A4	4,451,462		Wenk et al.	05-29-1984
	A5	4,539,412		Archer	09-03-1985
	A6	4,558,043		Wenk et al.	12-10-1985
	A7	4,904,798		Kranz et al.	02-27-1990
	A8	5,401,739		Ohno et al.	03-28-1995
	A9	6,174,887		Haruta et al.	01-16-2001
	A10	6,535,593	B1	Cashiola	03-18-2003
	A11	6,747,057	B2	Ruzafa et al.	06-08-2004
	A12	2001/0027210	A1	Wilson	10-04-2001

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
	B1	DE	29 22 488	A1	CHEM PHARMAZ. FEBRIK DR. HERMANN THIEMANN GMBH	12-11-1980	N
	B2	DE	44 24 712	A1	BASF AG	01-18-1996	N
	B3	DE	31 41 970	A1	VSESOJUZNYJ NAUČNO- ISSLEDOVATEL'SKIJ INSTITUT LEKARSTVENNYCH RASTENIJ	05-05-1983	N
	B4	EP	0 078 241	A2	CIBA-GEIGY AG	05-04-1983	N
	B5	EP	0 106 800	A1	CIBA-GEIGY AG	04-25-1984	N
	B6	EP	0 107 620	A1	CIBA-GEIGY AG	05-02-1984	N
	B7	EP	0 342 665	A2	TAKEDA CHEMICAL INDUSTRIES, LTD.	11-23-1989	N
	B8	EP	0 471 516	A1	IMPERIAL CHEMICAL INDUSTRIES PLC	02-19-1992	Y
	B9	FR	8 298 M		C.H. BOEHRINGER SÖHN	11-16-1970	N
	B10	FR	1 355 173 A	A1	SCIENCE UNION ET CIE, SOCIÉTÉ FRANÇAISE DE RECHERCHE MÉDICALE	02-03-2004	
	B11	GB	2,109,373	A	CIBA GEIGY AG	06-02-1983	Y
	B12	GB	2,326,410	A1	MERCK & CO. INC.	12-23-1998	Y
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	B14	JP	11-199565		TOYAMA CHEM. CO. LTD	07-27-1999	Abstract only

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				GROUP ART UNIT: Not yet assigned		EXAMINER: Not yet assigned	
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FOREIGN PATENT DOCUMENTS (cont.)

	B15	WO	00/00644	A1	SLOAN-KETTERING INST. FOR CANCER	01-06-2000	Y
	B16	WO	00/17386	A1	FOX CHASE CANCER CENTER	03-30-2000	Y
	B17	WO	00/18750	A2	KIMBERLY-CLARK WORLDWIDE INC.	04-06-2000	Y
	B18	WO	01/17985	A1	INDENA S.P.A.	03-15-2001	Y
	B19	WO	02/20500	A2	ICOS CORPORATION	03-14-2002	Y
	B20	WO	03/055479	A1	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	07-10-2003	Y
	B21	WO	90/14008	A1	SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH	11-29-1990	Y
	B22	WO	92/16517	A1	XENOVA LIMITED	10-01-1992	Y
	B23	WO	92/20666	A1	TAIHO PHARMACEUTICAL COMPANY, LIMITED	11-26-1992	Abstract
	B24	WO	95/20652	A1	MEDIGENE GMBH	08-03-1995	Abstract
	B25	WO	96/16632	A1	LABORATOIRES DE BIOLOGIE VEGETALE YVES ROCHER	06-06-1996	Abstract only
	B26	WO	96/22077	A1	HENKEL KOMMANDITGESELLSCHAFT AUF	07-25-1996	Y
	B27	WO	97/31891	A1	MERCK & CO., INC.	09-04-1997	Y
	B28	WO	97/08133	A1	JAPAN TOBACCO INC.	03-06-1997	Abstract
	B29	WO	98/13502	A2	ICOS CORPORATION	04-02-1998	Y
	B30	WO	99/14212	A1	ASTRA AKTIEBOLAG	03-25-1999	Y
	B31	WO	99/39247	A1	FIRST CHEMICAL CORPORATION	08-05-1999	Y
	B32	WO	99/29705	A2	GLYCOMED INCORPORATED	06-17-1999	Y

OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
	C1	ABADI, A.H., et al., "Synthesis, Antitumor and Antitubercular Evaluation of Certain New Xanthenone and Acridinone Analogs," <i>Arzneim.-Forsch./Drug Res.</i> 49 (I), Nr. 3, pp. 259-266 (1999)	
	C2	AGASIMUNDIN, Y.S., et al., (Abstract) "Furano compounds. XX. Synthesis of angular and linear furoxanthones," <i>Journal fuer Praktische Chemie (Leipzig)</i> (1972), 314(3-4), pp. 507-514	Abstract
	C3	ARAKI et al., "Nonsense mutation at TYR-4046 in the DNA-dependent protein kinase catalytic subunit of severe combined immune deficiency mice", <i>Proc. Natl. Acad. Sci. USA</i> , vol. 94, pp. 2438-2443 (1997)	
	C4	BIEDERMANN et al., " <i>scid</i> mutation in mice confers hypersensitivity to ionizing radiation and a deficiency in DNA double-strand break repair", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 88, pp. 1394-1397 (1991)	
	C5	BLUNT et al., "Defective DNA-Dependent Protein Kinase Activity is Linked to V(D)J Recombination and DNA Repair Defects Associated with the Murine <i>scid</i> Mutation", <i>Cell Press</i> , Vol. 80, pp. 813-823 (1995)	
	C6	BLUNT et al., "Identification of a nonsense mutation in the carboxyl-terminal region of DNA-dependent protein kinase catalytic subunit in the <i>scid</i> mouse", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 93, pp. 10285-10290 (1996)	

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OTHER ART — NON PATENT LITERATURE DOCUMENTS (cont.)

	C7	BROWN et al., "Toxicity of Selected Organic Compounds to Insects", <i>Can. J. Research</i> , Vol. 26D, pp. 177-187, (1948)		
	C8	CHRISTODOULOPOULOS et al., "Potentiation of Chlorambucil Cytotoxicity in B-Cell Chronic Lymphocytic Leukemia by Inhibition of DNA-dependent Protein Kinase Activity Using Wortmannin", <i>Cancer Research</i> , Vol. 58, pp. 1789-1792 (1998)		
	C9	CRETCHER et al., "Syntheses with β , β' - Dichloro-Diethyl Ether", <i>Journal of the American Chemical Society</i> , Vol. 47, pp. 163-166 (1925)		
	C10	CROISY-DELCEY, M., et al., "Aza Analogues of Lucanthone: Synthesis and Antitumor and Bactericidal Properties," <i>J. Med. Chem.</i> 1983, 26, pp. 1329-1333		
	C11	DANIEL et al., "A Role for DNA-PK in Retroviral DNA Integration", <i>Science</i> , Vol. 284, pp. 644-647, (1999)		
	C12	EFFENBERGER et al., "Aminobenzenes. VIII. Rearrangement of phenyl carbamates. Syntheses of 2, 4-dioxo-3, 4-dihydro-2H-1,3-benzoxazines and salicylamides", <i>Chemische Berichte</i> Vol. 105, pp-1926-1942 (1972)	Abstract	
	C13	EIDEN et al., "Darstellung und Reaktionen von 2-Acetyl-3-amino-5-hydroxy-2-cyclohexenonen; Benzol-Derivat aus pyronen", <i>Archiv der Pharmazie</i> (Weinheim, Germany), Vol. 318(4), pp. 328-340 (1985)		N
	C14	ELSLAGER et al., "Synthetic Schistosomicides. XVI. 5-(Mono- and Dialkylamino)-2-nitrosophenols, 2-Amino-5-(dialkylamino)phenols, and Related Compounds", <i>Journal of Medicinal Chemistry</i> , Vol. 13(3), pp. 370-376 (1970)		
	C15	FONTENEAU, N., et al., "Synthesis of quinone and xanthone analogs of rhein," <i>Tetrahedron</i> 57 (2001) pp. 9131-9135		
	C16	FUJIOKA, H., et al., "Activities of New Acridone Alkaloid Derivatives against Plasmodium yoelii in vitro," <i>Arzneim.-Forsch./Drug Res.</i> 40 (II), Nr. 9 (1990), pp. 1026-1029		
	C17	FULOP G.M. and PHILLIPS, R.A., "The <i>scid</i> mutation in mice causes a general defect in DNA repair", <i>Nature</i> , Vol. 347, pp. 479-482 (1990)		
	C18	GHOSH, C.K., et al., "Benzopyrans. Part 30. Synthesis of Substituted Xanthenes from 3-Acyl-2-methyl-1-benzopyran-4-ones," <i>Tetrahedron</i> Vol. 49, No. 19, pp. 4127-4134, 1993		
	C19	GILMAN et al., "Rearrangements in Amination by Alkali Amides in Liquid Ammonia and by Lithium Dialkylamides in Ether", <i>Journal of the American Chemical Society</i> , Vol. 74, pp. 3027-3029, (1952)	Abstract	
	C20	GOUD, A.N., et al., "Furan compounds. XVI," <i>Monatsh. Chem.</i> (1969), 100(1), pp. 38-41	Abstract	
	C21	HARFENIST, M., et al., "Selective Inhibitors of Monoamine Oxidase. 3. Structure-Activity Relationship of Tricyclics Bearing Imidazoline, Oxadiazole, or Tetrazole Groups," <i>J. Med. Chem.</i> 1996, 39, pp. 1857-1863		
	C22	HENDRICKSON et al., "A link between double-strand break-related repair and V(d)J recombination: The <i>scid</i> Mutation", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 88, pp. 4061-4065, (1991)		
	C23	INTERNATIONAL SEARCH REPORT of PCT/US2004/008459, mailed 10/11/2004		
	C24	IZZARD et al., "Competitive and Noncompetitive Inhibition of the DNA-dependent Protein Kinase", <i>Cancer Research</i> , Vol. 59, pp.2581-2586 (1999)		
	C25	JACKSON, Stephen P., "DNA-dependent Protein Kinase", <i>Cell. Biol.</i> , Vol. 29, No. 7, pp. 935-938 (1997)		
	C26	KLOPMAN, G., et al., "An artificial intelligence approach to the study of the structural moieties relevant to drug-receptor interactions in aldose reductase inhibitors," <i>Molecular Pharmacology</i> (1988), 34(6), pp. 852-862	Abstract	
	C27	LANGER et al., "Rearrangement of o-benzoquinol acetates with amines", <i>Monatshefte fuer Chemi</i> , Vol. 90, pp. 623-633 (1959)	Abstract	
	C28	MARI, S., et al., "Flavone and xanthone derivatives related to fluoroquinolones," <i>Il Farmaco</i> 54 (1999) pp. 411-415		

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Sheet	4	of	4		

OTHER ART — NON PATENT LITERATURE DOCUMENTS (cont.)

	C29	PETERSON et al., "Loss of the catalytic subunit of the DNA-dependent protein kinase in DNA double-strand-break-repair mutant mammalian cells", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 92, pp.3171-3174 (1995)		
	C30	POWELL et al., Differential Sensitivity of p53 ⁽⁻⁾ and P53 ⁽⁺⁾ Cells to Caffeine-induced Audiosensation and Override of G ₂ Delay ¹ ", <i>Cancer Research</i> , Vol. 55, pp. 1643-1648 (1995)		
	C31	RUSSELL et al. "Abrogation of the G ₂ Checkpoint Results in Differential Radiosensitization of Checkpoint-deficient and G ¹ Checkpoint-competent Cells ¹ ", <i>Cancer Research</i> , Vol. 55, pp. 1639-1642 (1995)		
	C32	TABARRINI, O., et al., "Design and Synthesis of Modified Quinolones as Antitumoral Acridones," <i>J. Med. Chem.</i> , 1999, Vol. 42, No. 12, pp. 2136-2144		
	C33	WINDHOLZ (Ed.) et al., "The Merck Index, ninth edition", p. 84, No. 658; p. 159, No. 1229; p. 187, No. 1458; p. 193, No. 1500; p. 263, No. 2050; p. 474, No. 3550; p. 680, No. 5043, p. 847, No. 6342; p. 871, No. 6521, p. 936, No. 7009; p. 939, No. 7031; p. 1069, No. 8011; p. 1080, No. 8094; p. 1275, No. 9592; (1976), Rahway, N.J.		
	C34	XUAN, T., et al., "Two new O- and C-glycosylxanthenes from the <i>Gentiana tizuensis</i> Franch," <i>Gaodeng Xuexiao Huaxue Xuebao</i> (2001), 22(10, Suppl.), pp. 148-150	Abstract	

EXAMINER:	DATE CONSIDERED:
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. __, filed __, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

[NOTE - The Office hereby waives the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC 371 after June 30, 2003. See 37 CFR 1.491(b). For all patent applications filed on or before June 30, 2003, copies of cited U.S. patents and patent application publications are still required unless an eIDS is filed. Copies of all other patent(s), publication(s), or other information listed must still be provided, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]



IAP7 Rec'd PCT/PTO 06 MAR 2006 PCT

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/550978
	Filing Date	September 26, 2005
	First Named Inventor	James W. Halbrook
	Art Unit	N/A
	Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	Attorney Docket Number	N0260.70068US01

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <ul style="list-style-type: none">Return Receipt PostcardReferences
		Remarks The Director is authorized to charge our deposit account no. 23/2825 for any fee deficiencies associated with this filing.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature			
Printed name	Roque El-Hayek		
Date	March 3, 2006	Reg. No.	55,151

Certificate of Mailing Under 37 CFR 1.8(a)	
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.	
Dated: March 3, 2006	Signature: (Sheila Gravina)